

REMARKS / ARGUMENTS

The present application includes pending claims 1-31. Claims 10-19 and 29-31 have been withdrawn. Claims 1, 9, 20, and 28 have been rejected. Claims 2-8 and 21-27 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. By this Amendment, claims 2-7 and 21-27 have been amended, as set forth above, to further clarify the language used in these claims and to further prosecution of the present application. The Applicant respectfully submits that the claims define patentable subject matter.

Initially, the Applicant notes that a goal of patent examination is to provide a prompt and complete examination of a patent application.

It is essential that patent applicants obtain a prompt yet complete examination of their applications. Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement for patentability in the *initial review* of the application, even if one or more claims are found to be deficient with respect to some statutory requirement. Thus, Office personnel *should* state *all* reasons and bases for rejecting claims in the *first* Office action. Deficiencies should be explained clearly, particularly when they serve as a basis for a rejection. Whenever practicable, Office personnel should indicate how rejections may be overcome and how problems may be resolved. A failure to follow this approach can lead to unnecessary delays in the prosecution of the application.

See Manual of Patent Examining Procedure (MPEP) § 2106(II). As such, the Applicant assumes, based on the goals of patent examination noted above, that

the present Office Action has set forth "all reasons and bases" for rejecting the claims.

Claims 1 and 20 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 23, 29, and 42-43 of co-pending Application No. 101606371. Claims 1, 9, 20, and 28 stand rejected under 35 U.S.C. § 102(e) as being anticipated by US Patent Publication No. 2003/0162566, issued to Shapira, et al. ("Shapira"). The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and the following remarks:

I. DOUBLE PATENTING REJECTION

Claims 1 and 20 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 23, 29, and 42-43 of co-pending Application No. 101606371. The Applicant is submitting herewith a Terminal Disclaimer in compliance with 37 C.F.R. §1.321(c), to overcome the double patenting rejection.

II. REJECTION UNDER 35 U.S.C. § 102

A. Shapira Does Not Anticipate Claims 1 and 20

The Applicant first turns to the rejection of claims 1 and 20 under 35 U.S.C.

102(e) as being anticipated by Shapira. With regard to the anticipation rejections under 102(b), MPEP 2131 states that “[a] claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” See Manual of Patent Examining Procedure (MPEP) at 2131 (internal citation omitted). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” See *id.* (internal citation omitted).

Shapira discloses “a method of controlling a plurality of beam patterns radiated by a base station in a wireless communication system.” See Shapira at Abstract. More specifically, Shapira teaches receiving at least one signal from a mobile station at the base station, determining estimated attributes of the at least one signal received by the base station. See *id.* Smoothed versions of the estimated attributes are calculated in accordance with a predetermined set of criteria are calculated, and a set of weighted signal parameters are generated to describe a polarization state of the at least one signal received from the mobile station. See *id.*

With regard to the rejection of independent claim 1 under 35 U.S.C. § 102(e), the Applicant submits that Shapira does not disclose or suggest at least the limitation of “processing each of the K received signal replicas **using one of N orthogonal sequences**, thereby generating K processed signal replicas, wherein N is less than K,” as recited by the Applicant in independent claim 1 (emphasis

added). The Office Action seeks support in Shapira and states the following:

As per claims 1 and 20, Shapira et al. disclose a method for receiving K replicas of the signal, each of the K replicas being received by one of a corresponding K antennas so as to thereby generate K received signal replicas [0064-0065]; processing each of the K received signal replicas using one of N orthogonal sequences, thereby generating K processed signal replicas, wherein N is less than K [0048, 0055, 0063-0066, 0074, 0080]; orthogonally multiplexing the K processed received signal replicas into a multiplexed signal provided to a signal processing chain [0048, 0055, 0063-0066, 0074, 0080]; down-converting, within the signal processing chain, the multiplexed signal into a baseband multiplexed signal [0064-0065]; and transforming the baseband multiplexed signal into K separate signals wherein each of the K separate signals corresponds to one of the K replicas of the signal [0058-0059, 0071, 0076, 01 00, 0103-0104, 0142].

See the Final Office Action at page 4. The Applicant respectfully disagrees with the above reasoning of the Examiner. It is unclear to the Applicant why the Examiner is citing to portions of Shapira since Shapira, including the cited paragraphs 0048, 0055, 0063-0066, 0074, and 0080 of Shapira, does not disclose or suggest processing a plurality of received signal replicas using orthogonal sequences. In fact, *Shapira does not disclose or suggest the use of any orthogonal sequences*, which is contrary to what is claimed by the Applicant in claim 1. It seems that the Examiner has only performed a search of the term "orthogonal" in the Shapira reference, since the only commonality between paragraphs 0048, 0055, 0063-0066, 0074, and 0080 of Shapira is the use of the term "orthogonal". However, Shapira only uses the term "orthogonal" with reference to antenna polarization, and not in reference to orthogonal sequences,

as the term is used by the Applicant.

Referring to Figure 5C of Shapira, the Applicant points out that Shapira discloses the following with regard to the orthogonal antenna polarization:

The output power of the antenna arrangement 5050 is split into two orthogonal polarizations, such as, for example, opposite linearly-slanted polarized antenna elements (i.e., $\pm 45^\circ$ linear polarizations). The power is transmitted according to the originally received polarization.

See Shapira at paragraph 0063. Referring to Figure 5A of Shapira, Shapira further discloses the following:

For example, as indicated in FIG. 5A both transmit and receive antenna elements comprise two opposing (i.e., orthogonal) linearly slanted polarized states (i.e., $\pm 45^\circ$ linear polarization).

See *id.* at paragraph 0055. In this regard, Shapira only discloses orthogonal (or opposing) linearly slanted polarized states for the antenna arrangements used by Shapira. Shapira does not disclose or suggest "processing each of the K received signal replicas using one of N orthogonal sequences, thereby generating K processed signal replicas, wherein N is less than K ," as recited by the Applicant in independent claim 1. Therefore, the Applicant submits that claim 1 is allowable over Shapira.

The Applicant submits that Shapira does not disclose or suggest at least the remaining limitations of independent claim 1. For example, Shapira does not disclose or suggest orthogonally multiplexing the K processed received signal

replicas into a multiplexed signal, downconverting within the signal processing chain, the multiplexed signal into a baseband multiplexed signal, and transforming the baseband multiplexed signal into K separate signals, as recited by the Applicant in claim 1. The Examiner has again used general references to a plurality of paragraphs of Shapira, without showing how Shapira anticipates the limitations of claim 1.

Independent claim 20 is similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claim 20 is also allowable over the references cited in the Office Action at least for the reasons stated above with regard to claim 1.

B. Rejection of Dependent Claims 9 and 28

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1 and 20 under 35 U.S.C. § 102(e) as being anticipated by Shapira has been overcome and request that the rejection be withdrawn. Additionally, claims 2-9 and 21-28 depend from independent claims 1 and 20, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 1-9 and 20-28.

III. CHANGE OF THE ATTORNEY DOCKET NUMBER

The Applicant respectfully requests that the Attorney Docket number be changed to **16132US02**. The Applicant respectfully requests that such change be made effective immediately in the official USPTO record and in any subsequent communication from the USPTO.

Application No. 10/650,478
Reply to Office Action of June 2, 2006

CONCLUSION

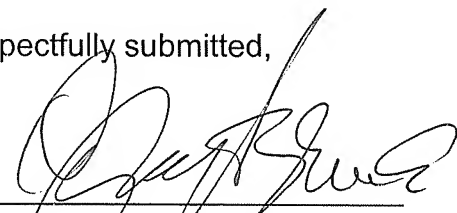
Based on at least the foregoing, the Applicants believe that all claims 1-9 and 20-28 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Attorney at (312) 775-8176.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Date: 05-SEP-2006

Respectfully submitted,



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